UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 January 2008*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

1   **DETAILED ACTION**

2

3   Claims 1 – 5 are pending.

4   All objections and rejections not set forth below have been withdrawn.

5

6   *Specification*

7

8   The specification is objected to as failing to provide proper antecedent basis for

9   the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction

10   of the following is required:

11   The specification fails to provide proper antecedent basis for the recitation of

12   "transmitting the Ethernet transmission frame independently of a physical (PHY) layer in

13   the EPON system to a destination user".

14

15   *Claim Rejections - 35 USC § 112*

16

17   The following is a quotation of the first paragraph of 35 U.S.C. 112:

18   The specification shall contain a written description of the invention, and of the manner and process of
19   making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
20   art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
21   set forth the best mode contemplated by the inventor of carrying out his invention.
22
23   **Claims 1 – 5 are rejected under 35 U.S.C. 112, first paragraph, as failing to**

24   **comply with the written description requirement.** The claim(s) contains subject

25   matter which was not described in the specification in such a way as to reasonably

1   convey to one skilled in the relevant art that the inventor(s), at the time the application

2   was filed, had possession of the claimed invention. Applicant has not adequately

3   pointed out where the amended claim is supported, nor does there appear to be a

4   written description of the claim recitation in the application as filed. Namely, the

5   specification fails to disclose how one transmits data independently of a physical layer.

6   See objection to the specification.

7

8   The following is a quotation of the second paragraph of 35 U.S.C. 112:

9   The specification shall conclude with one or more claims particularly pointing out and distinctly
10   claiming the subject matter which the applicant regards as his invention.
11
12
13   **Claims 1 – 5 are rejected under 35 U.S.C. 112, second paragraph, as being**

14   **indefinite for failing to particularly point out and distinctly claim the subject**

15   **matter which applicant regards as the invention.**

16

17   Claim 1 recites *"transmitting the Ethernet transmission frame independently of a*

18   *physical (PHY) layer in the EPON system to a destination user".* This claim is unclear

19   and indeterminate in scope, as transmission without the involvement of a physical

20   means appears improbable to one of ordinary skill in the art, the applicant has not

21   disclosed transmitting data independently of a physical layer within the applicant's

22   specification, and the applicant fails to show what constitutes "independence" during the

23   process of transmission. For the purpose of examination, the examiner presumes the

24   applicant to recite *"transmitting the Ethernet transmission frame in the EPON system to*

25   *a destination user".*

1

2   Claim 1 recites *"and wherein a variety of classes are provided according to a*

3   *total number of security IDs of said security ID field controlled by management entity"*.

4   There is insufficient antecedent basis for this recitation in the claim, as the applicant

5   fails to provide antecedent basis for **"the** management entity". For the purpose of

6   examination, the examiner presumes the applicant to recite *"and wherein a variety of*

7   *classes are provided according to a total number of security IDs of said security ID*

8   *field"*.

9

10   Claims 2 – 5 are rejected by virtue of dependency.

11

12

13   ***Claim Rejections - 35 USC § 103***

14

15   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

16   obviousness rejections set forth in this Office action:

17   (a) A patent may not be obtained though the invention is not identically disclosed or described as set
18   forth in section 102 of this title, if the differences between the subject matter sought to be patented and
19   the prior art are such that the subject matter as a whole would have been obvious at the time the
20   invention was made to a person having ordinary skill in the art to which said subject matter pertains.
21   Patentability shall not be negatived by the manner in which the invention was made.
22
23   **Claims 1 – 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over**

24   **Sala et al. (Sala), "Filtering and Forwarding Frames Within an Optical Network",**

25   **U.S. Patent Publication 2003/0117998 in view of Rothenberg, "Method and**

26   **Apparatus for Secure Data Transmission", U.S. Patent 5,432,850.**

1

2   Regarding claim 1 Sala discloses:

3   *a security frame providing an indication that security data is being transmitted,*

4 *said security frame having an ONU ID field for indicating ONU ID information*

5 *identified by an ONU with the destination user and a user ID field for indicating a*

6 *security ID identified by the destination user* (Sala, par. 9-12, 64, 74; fig. 2f:226,218,224

7 – Herein, Sala discloses an adapted PON tag with ID information fields, thus providing

8 an indication that security data is being transmitted)*,*

9   *wherein the ONU ID field includes a group ID bit field, a logical link ID field and a*

10 *security ID field for association with the logical link ID field to provide a group ID for a*

11 *plurality of management entities controlled by a single ONU, and wherein a variety of*

12 *classes are provided according to a total number of security IDs of said security ID field*

13 *controlled by management entity* (Sala, fig. 2f:218,224,226; par. 64, 67, 69, 74, 76, 81 -

14 additionally it is noted that tagging with Ethertypes comprises utilizing LLIDs – see

15 evidence Provisional Application 60/393/096, pg. 4 – 6);

16   *and b) transmitting the Ethernet transmission frame independently of a physical*

17 *(PHY) layer in the EPON system to a destination user* (Sala, par. 82-83).

18   Sala does not appear to explicitly recite *creating an Ethernet transmission frame*

19 *comprising a data field having encrypted security data, a key information field for storing*

20 *key information used for decrypting the encrypted security data of the data field.*

1   Rothenberg teaches *creating a transmission frame comprised of a data field for*

2   *encrypting the security data* and *a key information field for storing key information used*

3   *for decrypting the encrypted data of the data field* (Rothenberg, 3:37-57).

4   It would have been obvious to one of ordinary skill in the art to employ the

5   security methods of Rothenberg, namely secure data transmission utilizing data

6   encryption and a key to enhance security, with the system of Sala. This would have

7   been obvious because one of ordinary skill in the art would have been motivated by the

8   advantages of secure data transmission.

9

10   Regarding claim 2, the combination enables:

11   *wherein the security frame further includes a designator field for storing*

12 *information of a group of the ONUs and the users* (Sala, par. 58).

13

14   Regarding claim 3, the combination enables:

15   *wherein the security frame further includes a MDF (Management Defined Field)*

16 *for storing MIB (Management Information Base) information and associated protocol*

17 *information* (Sala, par. 58).

18

19   Regarding claim 4, the combination enables:

20   *c) transmitting the transmission frame to the users connected to the ONUs for*

21 *identifying the ONU ID field contained in the security frame of the transmitted frame*

22 (Sala, par. 82-83).

1

2   Regarding claim 5, the combination enables:

3   selecting at least one user who can identify contents of the ONU ID field

4   contained in the security frame from among the plurality of users connected to the

5   ONUs for identifying the ONU ID field, and transmitting the transmission frame to the

6   selected user (Sala, par. 52-53).

7

8   ***Response to Arguments***

9

10   Applicant's arguments filed 1/14/08 have been fully considered but they are not

11 persuasive.

12

13   Applicant argues or asserts primarily that:

14

15 (i)   *The method recited by present claim I is novel, and in view of the combination of*

16 *Sala and Rothenberg, would not have been obvious to a person of ordinary skill in the*

17 *art at the time of invention. The presently claimed invention provides advantages in that,*

18 *for example, by transmitting the Ethernet frame having the logical link ID field inserted*

19 *therein as claimed, the method is a PHY independent technique that is compatible with*

20 *a number of different physical environments associated with other physical layers and*

21 *network topologies (specification at page 14, lines 5-I7).* (Remarks, pg. 6)

22

1   Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount

2   to a general allegation that the claims define a patentable invention without specifically

3   pointing out how the language of the claims patentably distinguishes them from the

4   references.

5   In response to applicant's argument that the references fail to show certain

6   features of applicant's invention, it is noted that the features upon which applicant relies

7   (i.e., *The presently claimed invention provides advantages in that, for example…*

8   *(specification at page 14, lines 5-17)* are not recited in the rejected claim(s). Although

9   the claims are interpreted in light of the specification, limitations from the specification

10   are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057

11   (Fed. Cir. 1993).

12   Furthermore, it is respectfully noted that the techniques disclosed within the prior

13   art is also compatible with a number of different physical environments (Sala, par. 47).

14

15

16   (ii)   *More particularly, Applicant respectfully submits that the emulation scheme of the*

17   *combination of Sala and Rothenberg suffers from the same problems disclosed by the*

18   *Applicant in the specification at page 3…Moreover, the combination of Sala and*

19   *Rothenberg cannot determine whether an FCS cheek error is caused by defects of a*

20   *link, or by other devices, or is caused by an unauthenticated message (specification at*

21   *… In contrast, the method as recited in the present claims solves these problems in a*

22   *novel and non-obvious way. Accordingly, Applicant respectfully submits that the*

1   *combination of Sala and Rothenberg would have failed as a combination at the time of*

2   *invention to have rendered any of the present claims to an artisan at the time of*

3   *invention.*

4   *Applicant also respectfully submits that the combination of elements, as recited in*

5   *the present claims, would not have been obvious as being within the ordinary level of*

6   *skill in the art (KSR International v. Teleflex, 127 S.Ct. 1727, 82 USPQ2d 1385 (2007)).*

7   (Remarks, pg. 6, 7)

8

9   Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount

10 to a general allegation that the claims define a patentable invention without specifically

11 pointing out how the language of the claims patentably distinguishes them from the

12 references.

13   In response to applicant's argument that the references fail to show certain

14 features of applicant's invention, it is noted that the features upon which applicant relies

15 (i.e., *determine whether an FCS cheek error is caused by defects of a link, or by other*

16 *devices, or is caused by an unauthenticated message)* are not recited in the rejected

17 claim(s). Although the claims are interpreted in light of the specification, limitations from

18 the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26

19 USPQ2d 1057 (Fed. Cir. 1993).

20

21   ***Conclusion***

22

1   The prior art made of record and not relied upon is considered pertinent to

2   applicant's disclosure:

3   ***Provisional Application 60/393096:*** incorporated by reference by Sala*.*

4

5   Applicant's amendment necessitated the new ground(s) of rejection presented in

6   this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

7   § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

8   CFR 1.136(a).

9   A shortened statutory period for reply to this final action is set to expire THREE

10   MONTHS from the mailing date of this action. In the event a first reply is filed within

11   TWO MONTHS of the mailing date of this final action and the advisory action is not

12   mailed until after the end of the THREE-MONTH shortened statutory period, then the

13   shortened statutory period will expire on the date the advisory action is mailed, and any

14   extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

15   the advisory action. In no event, however, will the statutory period for reply expire later

16   than SIX MONTHS from the date of this final action.

17

18   Any inquiry concerning this communication or earlier communications from the

19   examiner should be directed to JEFFERY WILLIAMS whose telephone number is

20   (571)272-7965. The examiner can normally be reached on 8:30-5:00.

21   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

22   supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone

1   number for the organization where this application or proceeding is assigned is (703)

2   872-9306.

3   Information regarding the status of an application may be obtained from the

4   Patent Application Information Retrieval (PAIR) system. Status information for

5   published applications may be obtained from either Private PAIR or Public PAIR.

6   Status information for unpublished applications is available through Private PAIR only.

7   For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

8   you have questions on access to the Private PAIR system, contact the Electronic

9   Business Center (EBC) at 866-217-9197 (toll-free).

10

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14
15   /Emmanuel L. Moise/
16   Supervisory Patent Examiner, Art Unit 2137